



Lecture 7

CHS 456

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“You define your own life, don’t let other people write your script”. Oprah Winfrey



Lesson objectives

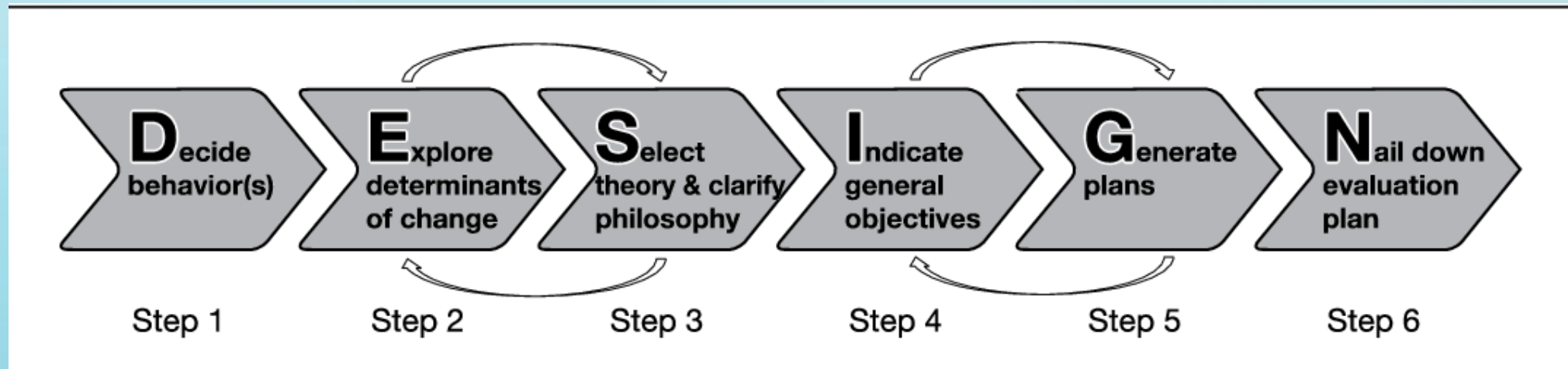
- Understand the importance of applying systematic process for designing effective nutrition education

What is the importance of applying systematic process for designing effective nutrition education?

Designing nutrition education is both art and science.

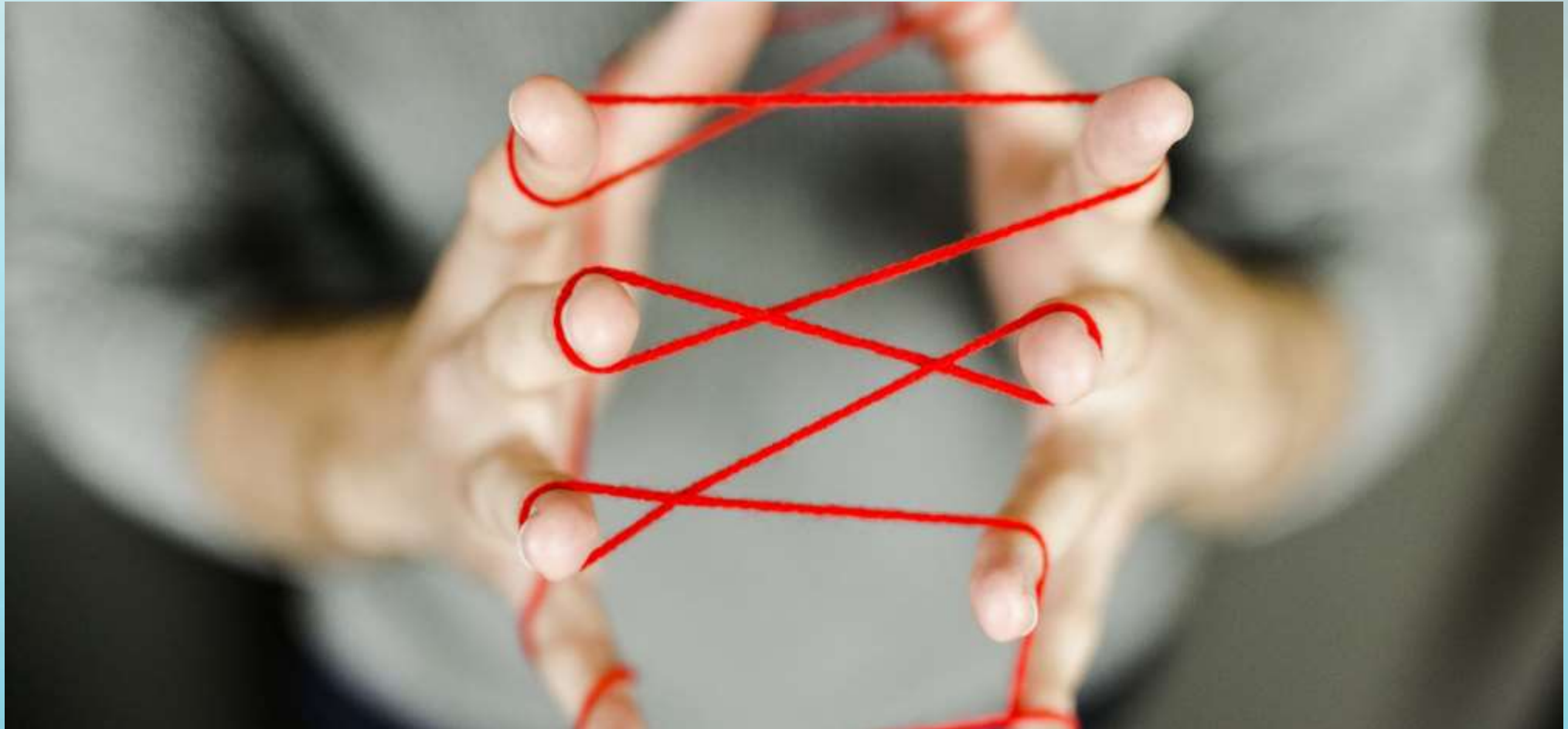
- It improves our chances in developing effective nutrition education.
- It provides a framework on how to proceed.
- It frees us in developing fun, engaging, and empowering activities appropriate to our audience/population.
- In this lecture, the systematic approach is called Nutrition Education DESIGN procedure.

DESIGN process is an acronym for:



- The DESIGN Procedure provides guidance on how to use educational instructional design theory to structure and sequence the psycho-social theory-derived behavioural change strategies and related group session activities to promote motivation and to facilitate behaviour change and incorporate communication principles to create ready-to-deliver group session plans.

It is important to conduct all steps in the process systematically, to clearly link theory, research, and practice at each step.



DESIGN can be used in designing:

- Educational interventions can include:

1. Educational activities

- Direct education activities: education sessions & activities delivered to groups.
- Indirect education activities: educational materials, technology-based education including websites, social media, apps, etc.

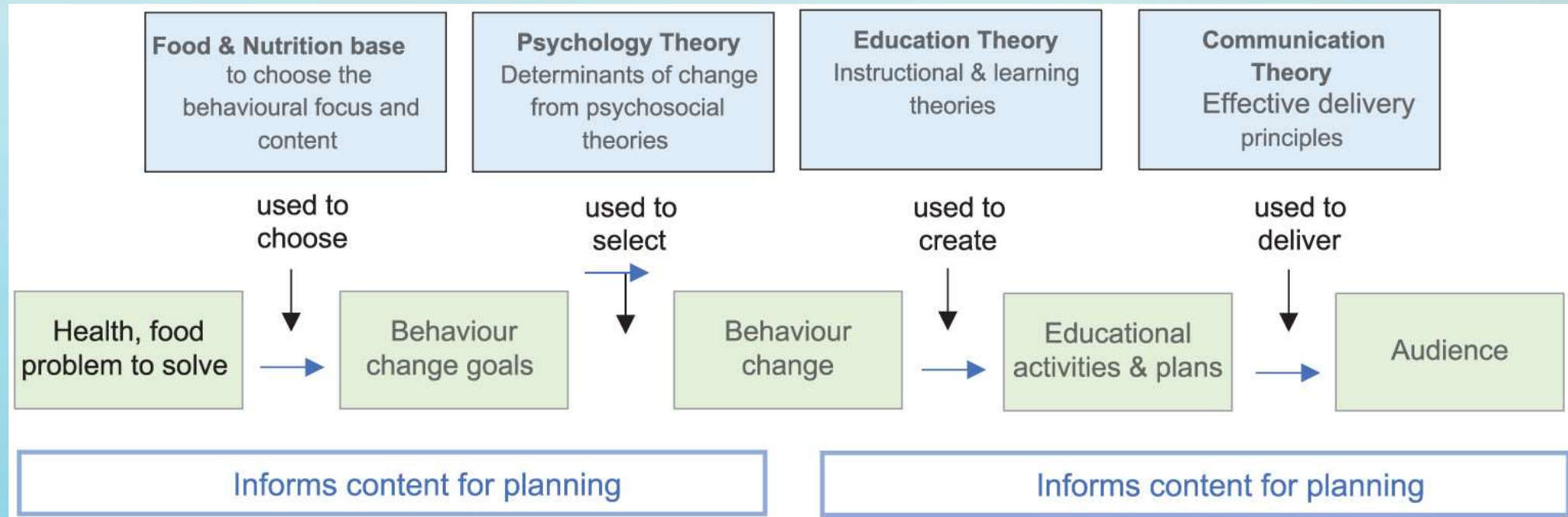
2. Environmental support (usually in collaborations):

One or several components directed towards family, social networks, policy, and systems with a focus on providing support for behavior change goal of a given intervention.

The DESIGN process integrates several disciplines for effective nutrition education

- **Food and nutrition base:** Identify relevant health problems to solve for audience and behaviors/actions that contribute to the problems to decide on behavior change goals.
- **Psychology base:** use psychological theory to select determinants and associated strategies that will enhance motivation and facilitate food/nutrition skills & behavior change skills.
- **Education and learning base:** use educational and learning theory to create activities and sequence them into educational plans to enhance motivation and facilitate the ability to act.
- **Communication theory base:** use communication principles and effective teaching methods to deliver education in ways that will excite and engage audiences of different age, cultural, socioeconomic and literacy groups.

The integration of insights from the 4 disciplines in the design of nutrition education (Leuise et al., 2019):

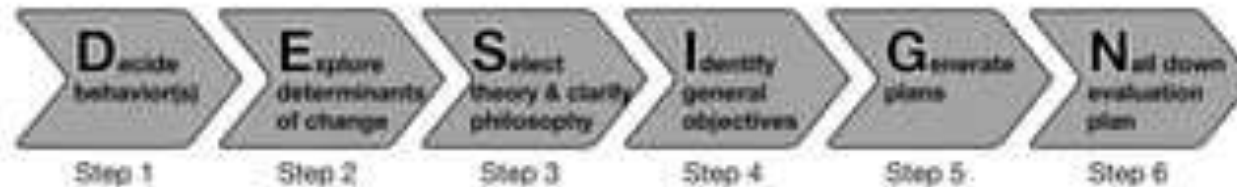


Pam Koch, Tisch Center for Food, Education & Policy, Teachers
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Food, Health & Choices



An innovative intervention for 5th grade students that involved classroom nutrition curriculum and wellness activities



Food, Health & Choices



Step 1: Decide issue & behavior

- Decide health issue:
 - Childhood obesity
- Decide audience:
 - Beginning independence
- Decide on goal behaviors:
 - Choose more and choose less behaviors
(Based on literature & survey)



Food, Health & Choices



Step 1: Decide behavior

Choose more:	Choose less:
• Fruits & vegetables	• Sweetened drinks
• Physical activity	• Processed packaged snacks
	• Fast food
	• Recreational screentime



Example from slide

Food, Health & Choices



Step 2: Explore audience knowledge & skills

Student comment	Mediator
• Did not know sugar in drinks	• Factual knowledge
• Do not use food labels	• Food skills
• Do not select salad bar	• Behavioral skills
• Never set action goals for healthier eating or PA	• Self-regulation skills



The flowchart illustrates a six-step process for behavior change. Step 2, 'Explore determinants of change', is highlighted in purple. The steps are: 1. Decide behaviors, 2. Explore determinants of change, 3. Select theory & apply philosophy, 4. Identify personal objectives, 5. Generate plans, and 6. Set driver evaluation plan.

Food, Health & Choices



Step 3: Select theory, philosophy & components

- **Select theory:**
 - Social cognitive and self-determination theories
- **Select philosophy:**
 - System-blame, not person-blame approach
- **Select program components:**
 - Classroom curriculum & wellness
 - Family support



Food, Health & Choices



Step 4: Indicate general objectives

Mediators	Objectives
• Outcome expectations	• Explain why energy balance is important
• Outcome expectations	• Describe health benefits of F&V /PA/ healthy snacks
• Social norms	• Explain how food ads influence us
• Perceived/ actual barriers	• Describe how environment makes it hard to do FHC behaviors



Food, Health & Choices



Step 5: Generate educational plans

Teacher Educational Plans

- Create activities to address determinants of change
- Sequence activities for implementation



Food, Health & Choices



Step 6: Nail down evaluation plan

Outcomes / objectives	Indicators for outcomes	Tools for indicators
Determinants/ mediators	Mediators for each of the 6 behaviors	87-item survey
Behaviors	Frequency & portion size, duration intensity of PA	49-item survey
Health	BMI	Height, weight



Systematic approaches similar to DESIGN process

- PRECEDE-PROCEED
- Intervention mapping
- Behavior Change Wheel

They are behavior-focused & theory based but do not provide detailed planning on planning and structuring educational plans ready to deliver to various audience through direct and indirect venues.

Self-study

- Michie, S., Van Stralen, M. M., & West, R. (2011). The behaviour change wheel: a new method for characterising and designing behaviour change interventions. *Implementation science*, 6, 1-12.
- Kok, G., Gottlieb, N. H., Peters, G. J. Y., Mullen, P. D., Parcel, G. S., Ruiter, R. A., ... & Bartholomew, L. K. (2016). A taxonomy of behaviour change methods: an intervention mapping approach. *Health psychology review*, 10(3), 297-312.
- Crosby, R., & Noar, S. M. (2011). What is a planning model? An introduction to PRECEDE-PROCEED. *Journal of public health dentistry*, 71, S7-S15.

Class activity

- Using the DESIGN approach, how to raise awareness on celiac disease, considering the environmental support.

- Akbari Namvar, Z., Mahdavi, R., Shirmohammadi, M., & Nikniaz, Z. (2021). The effect of group-based education on knowledge and adherence to a gluten-free diet in patients with celiac disease: randomized controlled clinical trial. *International Journal of Behavioral Medicine*, 1-8.
- Suárez-González, M., Bousoño-García, C., Jiménez-Treviño, S., & Díaz-Martín, J. J. (2021). Gluten-free diet: nutritional strategies to improve eating habits in children with celiac disease: a prospective, single-arm intervention study. *Nutrients*, 13(4), 1108.

